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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/641,802	08/17/2000	Istvan Boldogh	265.00240101	5387

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EXAMINER	
NICHOLS, CHRISTOPHER J	
ART UNIT	**PAPER NUMBER**
1647	15

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/641,802	BOLDOGH ET AL.	
	Examiner	Art Unit	
	Christopher Nichols, Ph.D.	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 January 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 August 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6, 11,14* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Status of Application, Amendments, And/Or Claims

1. The amendments filed 7 January 2003 (Paper No. 11), 7 January 2003 (Paper No. 12), 7 January 2003 (Paper No. 13), and 7 January 2003 (Paper No. 15) have been entered in full. Claims 1, 6, 7, 8, 9, 11, 12, 13, 14, and 15 have been amended. Claims 1-15 are under examination.

2. Applicant's election **with** traverse of Group 37 (Claims 1-15), in part drawn to methods of contacting cells with SEQ ID NO: 2 in Paper No. 8 (17 July 2002) is acknowledged. The *continued* traversal is on the ground(s) that the 35-way restriction is a burden for Applicant in terms of filing and maintenance fees (Paper No. 12 7 January 2003 pp. 8-9 "**Traverse of Restriction Requirement**"). Applicant further argues that claims 1-6, 9-11, 14, and 15 are a linking claims and the restriction should have been a requirement to elect a species. Therefore an examination of 35 SEQ ID NO's would not be a burden and that of the 35 groups would require substantial duplication of work on the part of the USPTO. The Applicant also argues that in light of previous the Office Action (Paper No. 9), claims 1-6, 9-11, 14, and 15 are generic claims encompassing specifically different embodiments of the same sequence (SEQ ID NO: 2), therefore the restriction was unwarranted. Finally, the Applicant argues that the use of "colostrinin or an analog thereof" in Janusz et al. (Paper No. 9 10 September 2002) demonstrates that claims 14 and 15 are generic claims due to their examination. Applicant's arguments have been fully considered but are not found to be persuasive. This is not found persuasive because, with regard to the 35 sequences, examination of specific combinations of peptides requires a significant extension of the search required for the elected peptide. It is noted that the claims

recite open claims language. Therefore, the elected invention is drawn to methods comprising contacting cells with SEQ ID NO: 2, and the claims embrace methods wherein cells are contacted with generic compositions comprising SEQ ID NO: 2. While the cost to applicant is regretted, the search required for any one peptide recited in the claims is non-coextensive with the search required for any other. Each peptide requires a unique search of the sequence and literature databases. Therefore, an undue search burden is required of the examiner to search all of the peptides together. Finally, regarding claims 1-6, 9-11, 14, and 15, it appears that claims 1-6, 9-11, 14, and 15 are not a linking claims, since the generic "constituent peptide of colostrinin" does not accurately reflect the Markush group recited in claim 1, for example. The specifically recited peptides are a subgenus. Since each peptide is structurally unique, restriction was proper. See MPEP 809.03. Finally, the use of the reference Janusz et al. to reject claims 14 and 15 (Paper No. 9 10 September 2002) does not connote admission on the part of the Examiner that claims 14 and 15 are generic and therefore linking claims. The use of Janusz et al. is only recognition of the broad claim language of claims 14 and 15 which specifically recites "colostrinin" includes colostrinin as described in said reference. The restriction/election requirement is still deemed proper and is therefore made FINAL.

3. Claims 1-15 will be examined to the extent that they read on methods of administering SEQ ID NO: 2, active peptide analogs thereof.

4. All Information Disclosure Statements, Paper No. 6 (25 July 2002), Paper No. 11 (10 January 2003), and Paper No. 14 (7 January 2003) have been considered in this Office Action.

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Withdrawn Objections And/Or Rejections

6. The objection to the specification regarding the title, informalities, and embedded hyperlinks as set forth at pp. 3-4 ¶6-9 of the previous office action (Paper No. 9, 10 September 2002) *is withdrawn in view* of Applicant's amendments (Paper No. 12, 7 January 2003).

7. The rejection of claims 1-13 under 35 U.S.C. 112 first paragraph as set forth at p. 4-7 ¶11-14 of the previous Office Action (Paper No. 9, 10 September 2002) is *withdrawn in part* in view of Applicant's amendment of claims 1, 6-9, and 11-13 (Paper No. 12, 7 January 2003). Please see rejection under 35 USC 112 ¶1, below.

8. The rejection of claims 14 and 15 under 35 U.S.C. 112 first paragraph as set forth at p. 7-8 ¶15-16 of the previous Office Action (Paper No. 9, 10 September 2002) is *withdrawn* in view of Applicant's amendment of claims 14 and 15 (Paper No. 12, 7 January 2003).

9. The rejection of claims 14 and 15 under 35 U.S.C. 102(b) as set forth at p. 8-9 ¶17 of the previous Office Action (Paper No. 9, 10 September 2002) is *withdrawn* in view of Applicant's amendment of claims 14 and 15 (Paper No. 12, 7 January 2003).

Maintained Objections

10. Claims 1-15 are objected to because of the following informalities: SEQ ID NO's 1 and 3-34 are non-elected inventions pursuant to the restriction requirement 18 June 2002 (Paper No. 7). Applicant's amendment of claims 1, 6-9, 11-15 has not overcome this objection. The objection to claims 1-15 for reciting non-elected inventions as set forth at p. 4 ¶10 of the

previous Office Action (Paper No. 9, 10 September 2002) is *maintained.* Appropriate correction is required.

Maintained Rejections

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for promoting neuronal cell differentiation comprising contacting a genus of cells represented by PC12 and SHSY5Y *in vitro* with SEQ ID NO: 2 or full-length colostrinin, does not reasonably provide enablement for the claimed methods for promoting neuronal differentiation in all cells. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims. Claims 1-8 are directed to methods of promoting cell differentiation in a cell comprising administering SEQ ID NO: 2 or an active analog thereof.

12. This rejection is maintained essentially for the reasons set forth at ¶11-14 pp. 4-7 of the previous Office Action (Paper No. 9, 10 September 2002). However, the Declaration of G. John Stanton under 37 C.F.R. §1.132 filed 7 January 2003 (Paper No. 13) is sufficient to partially overcome the issue regarding which cells can be differentiated into neuronal cells. It is noted that PC12 and SHSY5Y cells are both derived from neural tumors and are representative of a genus of neuronal cells. Applicant's argument (pp. 11-13 "**The 35 U.S.C. §112, First Paragraph,**

Rejection of claims 1-13.") as they pertain to the modified rejection, have been fully considered but are not persuasive for the following reasons.

13. Concerning PC12 cells as a model neuronal cell line and Declaration of G. John Stanton under 37 C.F.R. §1.132 filed 7 January 2003 (Paper No. 13), the Examiner *accepts* the argument that evidence presented in the specification and Declaration of G. John Stanton under 37 C.F.R. §1.132 filed 7 January 2003 (Paper No. 13) are sufficient to partially overcome the rejection as set forth at ¶11-14 pp. 4-7 in previous Office Action (Paper No. 9, 10 September 2002). Therefore, the rejection of claims 1-8 has been reiterated with a broader scope, allowing Applicant enablement for *in vitro* neuronal cell lines such as PC12 and SHSY5Y.

14. Concerning Exhibit A of the Declaration of G. John Stanton under 37 C.F.R. §1.132 filed 7 January 2003 (Paper No. 13). The Examiner *accepts* that the specification and Paper No. 13 offer sufficient support for one to practice the invention within the scope of inducing neuronal cell differentiation in neuronal cell lines such as PC12 and SHS75Y. However, neither the specification nor the prior art suggests that neuronal cell differentiation can be induced in other cells. For instance, Inglot et al. [(1996) "Colostrinine: a proline-rich polypeptide from ovine colostrums is a modest cytokine inducer in human leukocytes." Arch. Immunol. Ther. Exp. (Warsz). 44(4): 215-224 (**IDS**)] teaches that colostrinin or an active analog thereof [an active nonapeptide fragment of PRP, NP (V-Q-S-Y-V-P-L-F-P), which contains 22.2% proline] induces IFN and TNF-α production in human peripheral blood mononuclear leukocytes (PBL) *in vitro* (pp. 217 Table 1; pp. 218 Table 3). In light of this evidence, a person of ordinary skill in the art would doubt that these colostrinin analogs were inducing acting as "*neuronal cell regulators*" and changing "*the cells in morphology to form neuronal cells*" (Claim 1 of the instant

application). Thus the claimed full scope of the invention is contrary to the teachings of the prior art.

15. Concerning "undue experimentation" and the alleged support at pp. 3 lines 12-18 of the instant specification, the phrase "neuronal cells" constitutes a large and diverse genus. While a skilled artisan could identify neuronal or indeed, neural cells, the responses each particular member of these large geneses would vary. Despite the commonalities among morphology and cytoskeletal components, neuronal cells vary in their response to cell signaling molecules. In addition, these differences are based on their anatomical origin, their state of differentiation (precursor versus adult), their neurochemical profile, and weather they are neurons or glia [see Kandel et al. (2002) "Principles of Neural Science."4th Ed. pp. 67-81, 85-86; Bikfalvi et al. (February 1997) "Biological Roles of Fibroblast Growth Factor-2" Endocrine Reviews 18(1): 26-45, especially Section F; Rao (1999) "Multipotent and Restricted Precursors in the Central Nervous System." The Anatomical Record (NEW ANAT.) 257: 137-148].

16. Finally, the rejection on the basis of analogs as defined in the claims as "the active analog comprises a peptide having an amino acid sequence with at least about 15 percent proline and having at least about 70 percent structural similarity to one or more constituent peptides of colostrinin, which are selected from the group of SEQ ID NO: 1 through SEQ ID NO: 34", this part of the rejection has been *withdrawn* (see ¶7 above) and an objection *maintained* due to reiteration of non-elected material (see ¶10 above).

17. The rejection of claims 1-8 under 35 USC §112 ¶1 is maintained.

18. Claims 9-13 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 9-13 are directed to methods of promoting neuronal cell differentiation comprising administering SEQ ID NO: 2 or an active analog thereof to patients, including humans.

19. While the specification and prior art offers sufficient support to the claims that colostrinin and SEQ ID NO: 2 can stimulate cell differentiation in neuronal cells such as PC12 and SHSY5Y *in vitro* no evidence is provided re: successful stimulation of cell differentiation using SEQ ID NO: 2 in animals, successful treatment of human patients wherein cell differentiation was initiated using SEQ ID NO: 2. A skilled artisan would have no reasonable expectation of success that administration of colostrinin or SEQ ID NO: 2 would act as a "*neuronal cell regulator*".

20. As discussed above, colostrinin and its known active analogs have potent cytokine activity. In regards to the effects of colostrinin and its known analogs on cognition or neuronal cells, Popik et al. (29 January 2001) "Cognitive effects of Colostral-Val nonapeptide in aged rats." Behavioral Brain Research 118(2): 201-208] teaches that Colostral-Val nonapeptide CVNP: *Val-Glu-Ser-Tyr-Pro-Leu-Phe-Pro*, 22.2% proline) shows a strong effect on the primary and secondary immune response against SRBC (T-cell dependent antigen) in mice. Also, CVNP, although less potent than full-length colostrinin, did induce production of interferon (INF) and tumor necrosis factor-α (TNF-α) in human peripheral blood leukocytes and whole blood cell cultures. It is also of note that full-length colostrinin, induces maturation and differentiation of

murine thymocytes and affects humoral and cellular immune reactions, in both *in vitro* cultures and *in vivo* (pp. 201-202). When administered to aged rats Popik et al. (1997) teaches that CNVP is not believed to have any direct effects the process of acquisition of spatial memory (such as being a "*neuronal cell regulator*"). Indeed, CVNP and colostrinin had different effects in the studies presented by Popik et al. (1997) (Figures 1-5). Furthermore Popik et al. (1997) attribute the effects of CVNP on the rats to their immunomodulatory properties and not any direct effect on the nervous system (pp. 306-307). Taking Popik et al. (1997) into account, a skilled artisan would have doubt that colostrinin analogs were inducing acting as "*neuronal cell regulators*" and changing "*the cells in morphology to form neuronal cells*" (Claim 1 of the instant application).

21. As for PC12 cells being representative of all cells, Chao [(20 March 1992) "Growth Factor Signaling: Where is the Specificity?" Cell 68: 995-997 (**IDS**)] discloses that (pp. 995):

> "A common misconception is that NGF stimulates neuronal cell division. Despite its name, NGF is not mitogenic for neurons. NGF directs neurite outgrowth and guidance to targets; it promotes cell survival in only a few cell populations which include sympathetic and neural crest-derived sensory neurons."
>
> In addition,
>
> "Simply put, EGF and NGF trigger the same set of early responses, none of which are wholly specific for EGF or NGF."

Therefore, a skilled artisan would doubt that a response to colostrinin or SEQ ID NO: by PC12 cells would be considered representative of all cells.

22. Concerning the use of *in vitro* systems as support for *in vivo* methods, the *in vitro* system as presented in the instant application is not predicative of an *in vivo* method. The *in vitro* system

as presented in the instant application is not an art-recognized model system for the therapy claimed.

23. Due to the large quantity of experimentation necessary to evaluate all the possible effects of colostrinin, constituent peptides, and active analogs thereof (SEQ ID NO: 2), the lack of direction/guidance presented in the specification which what conditions in patients are conducive to inducing the claimed cell differentiation, the absence of working examples directed to patients treated with SEQ ID NO: 2, the complex nature of the invention, the unpredictability of the effects of colostrinin and its analogs on humans {Inglot et al. [(1996) "Colostrinine: a proline-rich polypeptide from ovine colostrums is a modest cytokine inducer in human leukocytes." Arch. Immunol. Ther. Exp. (Warsz). 44(4): 215-224 (**IDS**)]; Leszek et al. [(2002) "Colostrinin proline-rich polypeptide complex from ovine colostrums- a long-term study of its efficacy in Alzheimer's disease." Med. Sci. Monit. 8(10): PI93-95 (**IDS**)]}, and the breadth of the claims which fail to recite limitations for what effects SEQ ID NO: 2 would have on humans, undue experimentation would be required of the skilled artisan to make and/or use the claimed invention in its full scope.

24. The rejection of claims 9-13 under 35 USC 112 ¶1 is maintained.

25. Claims 14 and 15 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 14 and 15 are directed to method of converting damaged neuronal cells into functional neuronal cells via contact with SEQ ID NO: 2 or full-length colostrinin.

26. The Applicant traverses the rejection as set forth at ¶15-16 pp. 7-8 in the previous Office Action (Paper No. 9, 10 September 2002) on the grounds that the specification provides adequate guidance for the use of active analogs "wherein the active analog comprises the peptide having an amino acid sequence with at least 15 percent proline and having at least about 70 percent structural similarity to one or more constituent peptides of colostrinin, which are selected from the group SEQ ID NO: 1 through SEQ ID NO: 34" (pp. 13-14 **"The 35 U.S.C. §112, First Paragraph, Rejection of claims 14 and 15"**).

27. Regarding administering SEQ ID NO: 2 and analogs thereof to patients including humans, colostrinin has the effect of has the mechanism of action of colostrinin administered to human patients is the induction of a state of the immune system of hyporeactivity or tolerance, manifested by the inability to synthesize IFN and TNF-α [WO 98/14773 pp. 20-21 (**IDS**)]. This hyporeactivity or tolerance is temporary and stops after the termination of the administration of colostrinin [WO 98/14773 pp. 20-21 (**IDS**)]. Thus Janusz et al. does not teach that colostrinin has the effect of a "*neuronal cell regulator*" which converts nonfunctional neuronal cells to functional cells.

28. The Examiner notes that several peptides and fragments have been discussed as active analogs of colostrinin. In this vein, it is taken into consideration that it has been established by the courts that a product inherently possesses characteristics of that product (i.e. including the amino acid sequence of a protein). See, e.g., *Ex parte Gray*, 10 USPQ 2d; *In re Best*, 195 USPQ 430). In addition,

> "the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product. Accordingly, since the issue in the present appeal is whether the prior art factor is identified or patently indistinct from that of the material on appeal, appellants have the burden of showing that inherency

is not involved". *Ex parte Gray*, 10 USPQ 2d 1922 (1989); *In re Best*, 195 USPQ 430 (CCPA 1976).

Moreover, when the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process. *In re Thorpe*., 227 USPQ 964, 966 (Fed. Cir. 1985): *In re Marosi*, 218 USPQ 289, 292-293 (Fed. Cir. 1983). Lastly it is noted that the courts have held that when the prior art product reasonable appears to be the same as that claimed, but differs by process in which it is produced, a rejection of this nature is eminently fair and the burden is upon the appellants to prove, by comparative evidence, a patentable difference (*In re Brown*, 173 USPQ 685).

29. Thus the colostrinin, PRP, and NP peptides disclosed by WO 98/14473, being valid active analogs of SEQ ID NO: 2, do not have the "*neuronal cell regulator*" activity as claimed by the instant application. Hence, no support is given by the prior art concerning the activity of colostrinin and its analogs as neuronal cell regulators.

30. The Applicant traverses the rejection as set forth at ¶15-16 pp. 7-8 in the previous Office Action (Paper No. 9, 10 September 2002) on the grounds that the specification provides adequate guidance for the treatment of nonfunctional neuronal cells, wherein the nonfunction is the result of neurodegeneration (pp. 13-14 **"The 35 U.S.C. §112, First Paragraph, Rejection of claims 14 and 15"**).

31. While the specification and prior art offers sufficient support to the claims that colostrinin and its active peptide analog SEQ ID NO: 2 can stimulate cell differentiation in neuronal cell lines such as PC12 and SHSY5Y *in vitro* no evidence is provided re: successful conversion of damaged neuronal cells into function cells using SEQ ID NO: 2, successful treatment of human

patients wherein cell revival was initiated using SEQ ID NO: 2. Thus a skilled artisan lacks the guidance necessary to practice the claimed invention of claims 14 and 15 with a reasonable expectation of success.

32. The art also teaches that colostrinin and its active analogs have activity as cytokines and not neuronal cell regulators. For instance, Kruzel et al. (December 2001) "Towards and Understanding of Biological Role of Colostrinin Peptides." Journal of Molecular Neuroscience 17(3): 379-389 discloses the identification and synthesis of 42 constituent peptide fragments of full-length colostrinin (Table1). Kruzel et al. also teaches that select peptide fragments induce proliferation and cytokine release (Table 3 and Table 4). Kruzel et al. also discloses the usefulness of using colostrinin and constituent peptides for Alzheimer's patients citing the peptide fragment's ability to induce cytokines and reduce oxidative stress but not a role as a "*neuronal cell regulator*" (pp. 388).

33. Furthermore the prior art also teaches that proline-rich polypeptide (PRP), an active analog of colostrinin is useful for treating an autoimmune disease, not neurodegeneration or any nervous system nonfunction. Zimecki et al. [(1991) "Effect of a proline-rich polypeptide (PRP) on the development of hemolytic anemia and survival of New Zealand Black (NZB) mice." Achivum Immunologiae Et Therapiae Expermimentalis 39: 461-467 (**IDS**)] teaches that PRP (an active analog of colostrinin with 22.2% proline) induces the differentiation of immature T cells into functionally active T helper and T suppressor cells (pp. 461 and 466). Zimecki et al. (1991) demonstrated that administration of PRP prolonged the life span of mice with an autoimmune disease (Table 1 and 2). Thus the prior art gives the skilled artisan support for the use of

colostrinin and SEQ ID NO: 2 for the treatment of immune cell nonfunction not neuronal cell nonfunction.

34. Concerning the use of *in vitro* systems as support for *in vivo* methods, the *in vitro* system as presented in the instant application is not predicative of an *in vivo* method. The *in vitro* system as presented in the instant application is not an art-recognized model system for the therapy claimed.

35. Due to the large quantity of experimentation necessary to evaluate all the possible effects of colostrinin, constituent peptides, and active analogs thereof (SEQ ID NO: 2), the lack of direction/guidance presented in the specification which what conditions in patients are conducive to inducing the claimed revitalization, the absence of working examples directed to patients successfully treated with SEQ ID NO: 2, the complex nature of the invention, the unpredictability of the effects of colostrinin and its analogs on humans {Inglot et al. (1996) "Colostrinine: a proline-rich polypeptide from ovine colostrums is a modest cytokine inducer in human leukocytes." Arch. Immunol. Ther. Exp. (Warsz). 44(4): 215-224 (**IDS**); Leszek et al. (2002) "Colostrinin proline-rich polypeptide complex from ovine colostrums- a long-term study of its efficacy in Alzheimer's disease." Med. Sci. Monit. 8(10): PI93-95 (**IDS**)}, and the breadth of the claims which fail to recite limitations for what effects SEQ ID NO: 2 would have on the human nervous system, undue experimentation would be required of the skilled artisan to make and/or use the claimed invention in its full scope.

36. The rejection of claims 14 and 15 under 35 USC 112 ¶1 is maintained.

Summary

37. Claims 1-15 are hereby rejected.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher J. Nichols, Ph.D. whose telephone number is 703-305-3955. The examiner can normally be reached on Monday through Friday, 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Kunz, Ph.D. can be reached on 703-308-4623. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications. The fax phone numbers for the customer service center is 703-872-9305

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Elizabeth C. Kemmerer

CJN
March 18th, 2003